

AMENDMENTS TO THE CLAIMS

Please amend Claims 1-6, 8, 10, 28, 30, and 31 as shown below:

1. (Currently Amended) A method of facilitating a circuit design to be implemented in a programmable device, said method comprising

a) causing to be displayed information related to a module of a plurality of available modules, said module representing a function implementable in programmable resources available ~~to implement a circuit in the programmable device~~, said display performed in response to said module being selected; ~~and~~

b) a computer program determining a valid position for said module in a graphical user interface, said graphical user interface having a plurality of resource icons representing said programmable resources, said valid position based on characteristics of said module and characteristics of said programmable resources, said determination made in response to a user request for said valid position for said module in said graphical user interface; and

c) providing in said resource icons an indication of said valid position of said module, said indication generated by said computer program.

2. (Currently Amended) The method of Claim 1, further comprising:

[[c]] d) said computer program generating at least two elements selected from the group consisting of: an application programming interface (API) for programming an operation of said module, source code for realizing said module in said resources, an interrupt vector table having a call to an interrupt service routine for said module, and a data

sheet for a circuit comprising selected modules as positioned in said graphical user interface.

3. (Currently Amended) The method of Claim 1, further comprising:

[[c]] d) said computer program determining a new valid position for said module in said graphical user interface, said determination in response to a user request for a new position for said module.

4. (Currently Amended) The method of Claim 3, wherein [[c]] d) comprises:

[[c]] d1) receiving a user request for said new valid position for said module;

[[c]] d2) said computer program determining said new valid position for said module in said graphical user interface, based on characteristics of said module and characteristics of said resources; and

[[c]] d3) highlighting at least one of said resource icons on said graphical user interface to indicate said new valid position.

5. (Currently Amended) The method of Claim 1, further comprising:

[[c]] d) said computer program determining positions for a plurality of modules in said graphical user interface, in response to requests from a user for positions for said plurality of modules; and

[[c]] d) displaying a graphical user interface to facilitate configuring interconnections between said resource icons.

6. (Currently Amended) The method of Claim 1, wherein b) comprises:

b1) said computer program determining said valid position, based on a description of said module and a description of said resources; and wherein c) comprises:

[[b2]] c1) highlighting at least one of said resource icons on said graphical user interface to indicate said valid position.

7. (Original) The method of Claim 1, wherein a) comprises displaying a datasheet for said module.

8. (Currently Amended) The method of Claim 7, further comprising:

[[c]] d) causing to be displayed a plurality of graphical icons identifying sections of said datasheet to be displayed; and

[[d]] e) displaying a section of said datasheet in response to one of said graphical icons being selected.

9. (Original) The method of Claim 1, wherein a) comprises displaying a circuit schematic for said module.

10. (Currently Amended) A computer readable medium having stored thereon program instructions for implementing a method for assisting circuit designing, said method comprising:

a) determining valid positions in a graphical user interface for user selected modules to be placed in said graphical user interface, said graphical user interface describing programmable resources operable to implement said selected modules said valid positions based on characteristics of said user selected modules and characteristics of said programmable resources; and

b) generating at least two elements selected from the group consisting of: an application programming interface (API) for programming an operation of a first of said user selected modules, source code for realizing said user selected modules in said resources, an interrupt vector table having a call to an interrupt service routine for a first of said user selected modules, and a data sheet for a circuit comprising said user selected modules as positioned in said graphical user interface.

11. (Previously Presented) The computer readable medium of Claim 10, wherein said method further comprises:

c) causing to be displayed information related to said first of said user selected modules in response to said first of said user selected modules being selected to be used in said circuit.

12. (Previously Presented) The computer readable medium of Claim 10, wherein said method further comprises:

d) determining a new valid position for said first of said user selected modules in said graphical user interface, said determination in response to a user request for said new valid position for said first of said selected modules.

13. (Previously Presented) The computer readable medium of Claim 12, wherein d) of said method comprises:

d1) determining said new valid position for said first of said user selected modules in said graphical user interface, based on an Extensible Markup Language (XML) description of said first of said user selected modules and an XML description of said resources; and

d2) highlighting at least one resource icon on said graphical user interface to indicate said new valid position, said resource icon representing one of said resources.

14. (Previously Presented) The computer readable medium of Claim 10, wherein said method further comprises:

c) displaying a graphical user interface to facilitate configuring interconnections between said resources operable to implement said user selected modules.

15. (Previously Presented) The computer readable medium of Claim 10, wherein a) of said method comprises:

a1) receiving a user request for a valid position for said first of said user selected modules;

a2) determining said valid position, based on an Extensible Markup Language (XML) description of said first of said user selected modules and an XML description of said resources; and

a3) highlighting at least one resource icon on said graphical user interface to indicate said valid position, said resource icon representing one of said resources operable to implement said user selected modules.

16. (Previously Presented) The computer readable medium of Claim 10, wherein said resources comprises a plurality of classes and at least one of said modules maps to a plurality of said classes; and wherein a) comprises:

a1) receiving a user request for a valid position for a portion of said at least one module, said portion implementable in a first class of said plurality of classes of resources;

a2) determining said valid position for said portion, based on an Extensible Markup Language (XML) description of said and an XML description of said first class of said plurality of classes of resources; and

a3) highlighting at least one resource icon on said graphical user interface to indicate said valid position for said portion of said at least one module, said resource icon representing a resource in said first class of said plurality of classes of resources.

17-26. (Cancelled)

27. (Previously Presented) The method of Claim 1, wherein said valid position is represented by at least one of said resource icons.

28. (Currently Amended) A method of facilitating ~~circuit design~~ programming a microcontroller, said method comprising:

a) displaying a graphical user interface (GUI) comprising resource icons representing a layout of resources available to implement a circuit in a of said microcontroller device;

b) displaying information related to a module of a plurality of modules, said module representing a function implementable in said resources, said displaying information performed in response to said module being selected by a user;

c) a computer program determining a valid position for said module in said layout in the GUI reflecting a valid position for said function in said resources of said microcontroller device; and

d) displaying said valid position for said module in said layout of the resources [[GUI]], wherein circuit design programming said microcontroller is facilitated.

29. (Previously Presented) The method of Claim 28, wherein said method further comprises:

e) generating at least two elements selected from the group consisting of: an application programming interface (API) for causing said first module to perform an operation, source code for realizing said modules that comprise said circuit in said resources, an interrupt vector table having a call to an interrupt service routine for said first module, and a data sheet for said circuit.

30. (Currently Amended) The method of Claim 28, further comprising:

e) said computer program determining a new valid position for said module in said layout in the GUI reflecting a new valid position for said function in said resources of said microcontroller, said determination in response to a user request for a new position for said module.

31. (Currently Amended) The method of Claim 30, wherein e) comprises:

e1) receiving a user request for said new valid position for said module;

e2) said computer program determining said new valid position for said module in said layout in said GUI, based on characteristics of said module and characteristics of said resources; and

e3) highlighting at least one of said resource icons on said GUI to indicate said new valid position.

32. (Previously Presented) The method of Claim 28, further comprising:

e) said computer program determining positions for a plurality of modules in said GUI, in response to requests from a user for positions for said plurality of modules; and

f) displaying a GUI to facilitate configuring interconnections between said resource icons.

33. (Previously Presented) The method of Claim 28, wherein said c) comprises computing said valid position for said module based on an Extensible Markup Language (XML) description of said module and an XML description of said resources.

34. (Previously Presented) The method of Claim 28, further comprising:

e) causing to be displayed a selectable display of available module parameters in response to a request for said available module parameters for said module, said selectable display based on characteristics of said module.

35. (Previously Presented) The method of Claim 28, wherein said b) comprises displaying a Hypertext Markup Language (HTML) datasheet for said module.

36. (Previously Presented) The method of Claim 35, further comprising:

e) displaying a section of said datasheet in response to a graphical icon being selected, said datasheet having a plurality of graphical icons identifying sections of said datasheet to be displayed.

37. (Previously Presented) The method of Claim 28, wherein said b) comprises displaying a circuit schematic for said module.